

# TECHNICAL INFORMATION



PRODUCT

P 1 / 8

**Model No.** ▶ BDA341/ BDA351

**Description** ▶ 14.4V/18V Cordless Angle Drill 10mm (3/8")

## CONCEPT AND MAIN APPLICATIONS

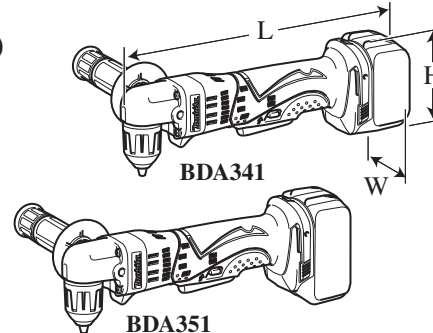
Models BDA341 and BDA351 have been developed as the DC version tools of Model DA3011F, featuring:

- Lightweight design obtained by using Li-ion battery as a power unit
- High power 4-pole motor for excellent drilling performance

Sister tools featuring Keyed drill chuck are also available as Models BDA340/ BDA350.

(See Technical Information of BDA340/ BDA350 for detailed information.)

These products are available in the following variations.



Dimensions: mm (")		
	BDA341	BDA351
Length (L)	326 (12-7/8)	
Width (W)	79 (3-1/8)	
Height (H)	97 (3-13/16)	115 (4-1/2)

### BDA341

Model No.	Battery		Battery cover	Charger	Plastic carrying case	Offered to
	type	quantity				
BDA341Z	No	---	No	No	No	All countries
BDA341	BL1430 (Li-ion 3.0Ah)	2	1	DC18RA	Yes	North America
BDA341RFE		1	No			All countries except North America
BDA341RF						

### BDA351

Model No.	Battery		Battery cover	Charger	Plastic carrying case	Offered to
	type	quantity				
BDA351Z	No	---	No	No	No	All countries
BDA351	BL1830 (Li-ion 3.0Ah)	2	1	DC18RA	Yes	North America
BDA351RFE		1	No			All countries except North America
BDA351RF						

## ► Specification

Model		BDA341	BDA351
Battery	Voltage: V	14.4	18
	Capacity: Ah	3.0	
	Cell	Li-ion	
Max output: W		230	280
No load speed: min-1=rpm		0 - 1,700	0 - 1,800
Drill chuck type		Keyless, Single sleeve	
Capacity of drill chuck: mm (")		1.5 (1/16) - 10 (3/8)	
Capacity: mm (")	Steel	10 (3/8)	
	Wood	25 (1)	
Electric brake		Yes	
Variable speed control		Yes	
Reverse switch		Yes	
LED job light		Yes	
Net weight: kg (lbs)		1.6 (3.5)*	1.7 (3.7)**

\*with Battery BL1430  
\*\*with Battery BL1830

## ► Standard equipment

Side grip ..... 1 **Note:** The standard equipment for the tool shown above may differ by country.

## ► Optional accessories

Charger DC24SA (for North America only)    Battery BL1430 (for BDA341)    Drill bits for wood    Fast charger DC18RA  
Charger DC24SC (except for North America)    Battery BL1830 (for BDA351)    Drill bits for steel    Belt clip

## ► Repair

**CAUTION: Remove the bit and the battery from the machine for safety before repair/ maintenance in accordance with the instruction manual!**

### [1] NECESSARY REPAIRING TOOLS

Code No.	Description	Use for
1R029	Bearing setting pipe 23-15.2	Assembling Spur gear 29 section to Gear housing
1R139	Drill chuck extractor	Removing Keyless drill chuck
1R269	Bearing extractor	Removing Ball bearings
1R291	Retaining ring S and R pliers	Removing Retaining ring S-12
1R292	Wrench for Bearing retainer (with expanded claw distance from 30mm to 36mm)	Assembling / Disassembling Bearing retainer 36-43
1R316	Adjustable bearing retainer wrench	Assembling / Disassembling Bearing retainer 36-43

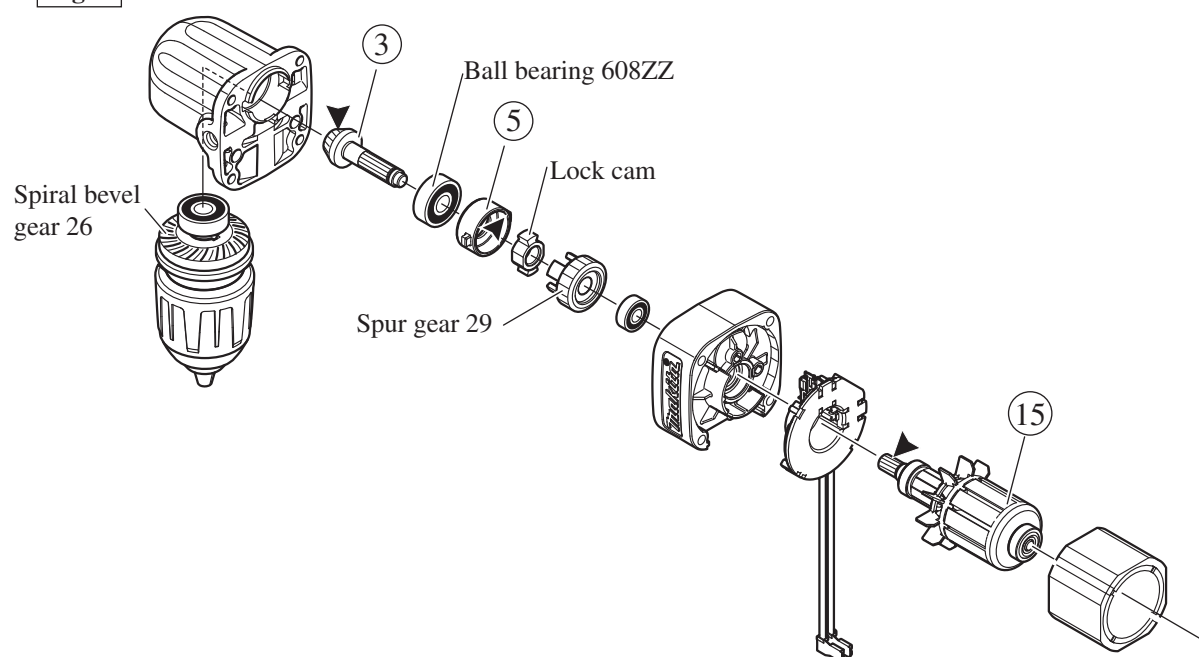
### [2] LUBRICATION

Apply Makita grease N. No.2 to the following portions designated with the black triangle to protect parts and product from unusual abrasion.

Item No.	Description	Portion to lubricate	Amount
③	Spiral bevel gear 9	Teeth portion for smooth engaging with Spiral bevel gear 26	4g
⑤	Lock ring	Inside where Lock cam contacts	a little
⑮	Armature	Drive end where engages with Spur gear 29	2g

**Fig. 1**

▼ Makita grease N No. 2



## ► Repair

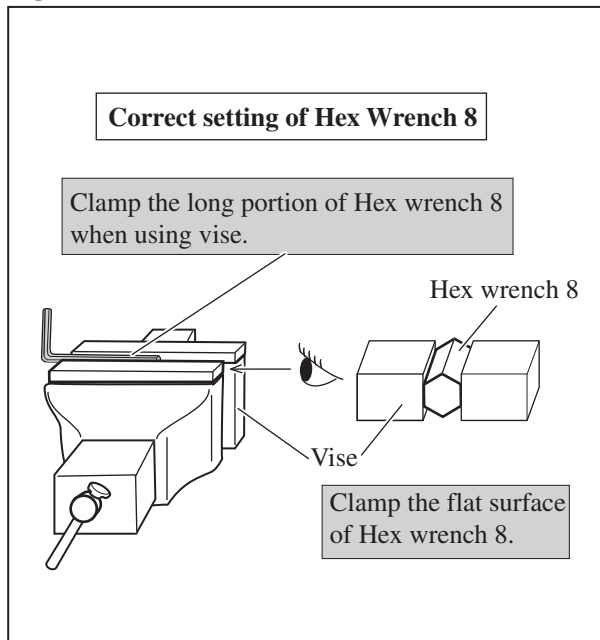
### [3] DISASSEMBLY/ASSEMBLY

#### [3]-1. Keyless Drill Chuck

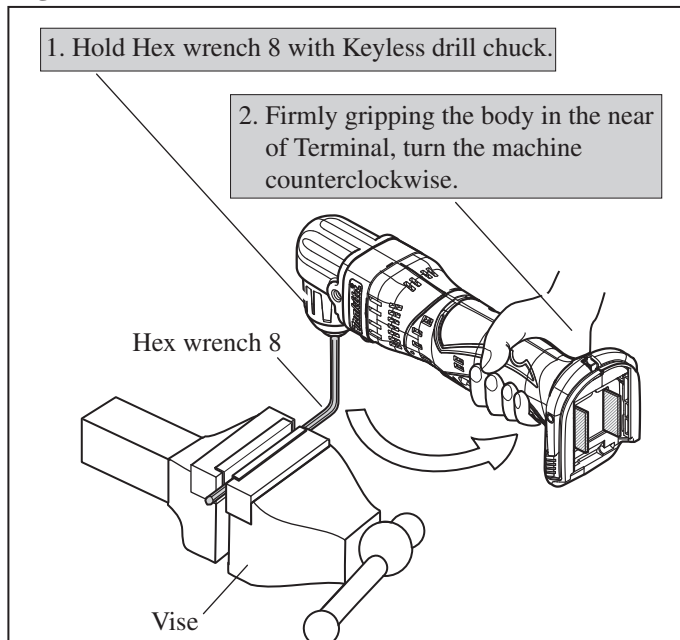
##### DISASSEMBLING

Remove Keyless drill chuck as illustrated in **Figs. 2 and 3**. If it is difficult to remove in this way, Keyless drill chuck can be removed as illustrated in **Figs.2A and 3A**.

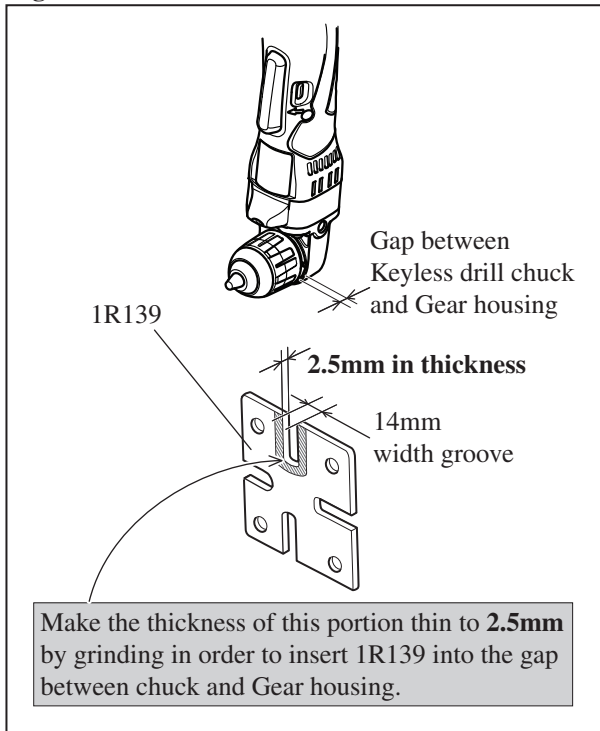
**Fig. 2**



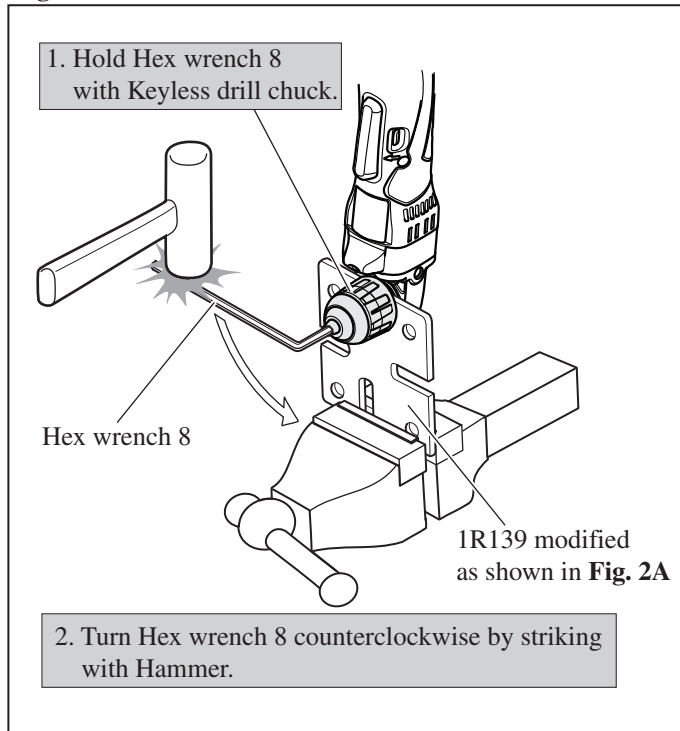
**Fig. 3**



**Fig. 2A**



**Fig. 3A**



##### ASSEMBLING

- (1) Do the reverse of the disassembling steps. Refer to **Figs. 3 and 2., or Figs. 3A and 2A**.
- (2) Turn the machine or Hex wrench clockwise to tighten Keyless drill chuck. The fastening torque for Drill chuck is **40 - 45 N.m**.

**Note:** Keyless drill chuck may further turn resisting shaft lock mechanism, while sounding like clutch in work. This phenomenon does not show any trouble, but Keyless drill chuck is tightened firmly.

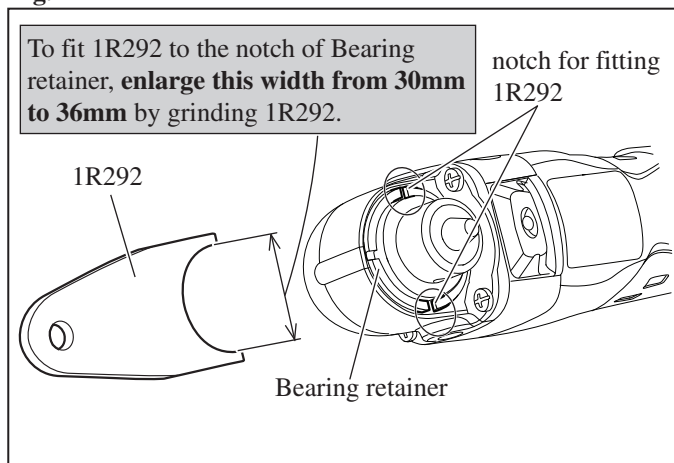
## ► Repair

### [3]-2 Spiral Bevel Gear 26

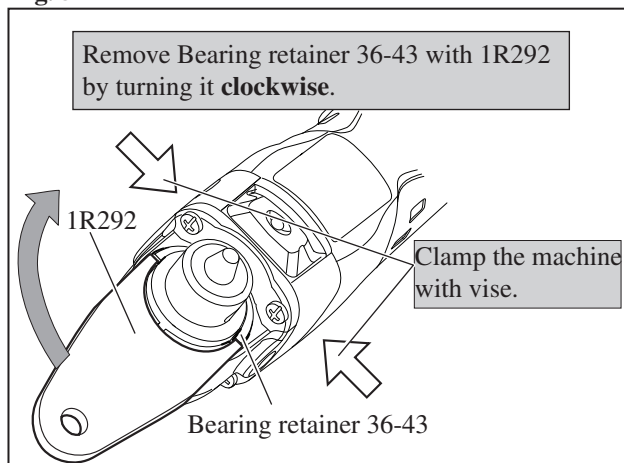
#### DISASSEMBLING

- (1) Remove Keyless drill chuck as illustrated in **Figs. 2 and 3 / Figs. 2A and 3A**. And disassemble Bearing retainer as illustrated in **Figs. 4 and 5**.
- (2) Disassemble Spiral bevel gear 26 in the order of **Figs. 6 to 10**.

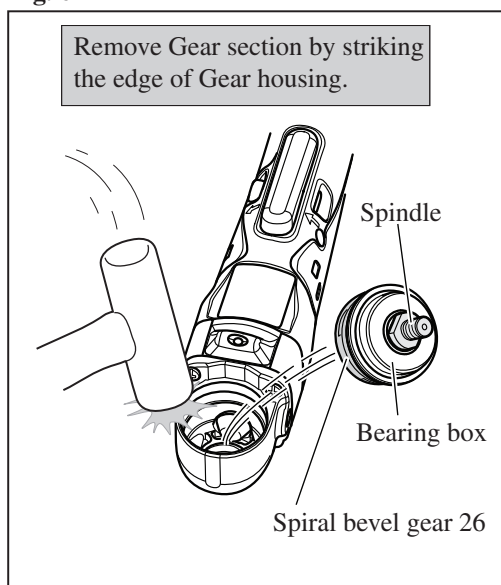
**Fig. 4**



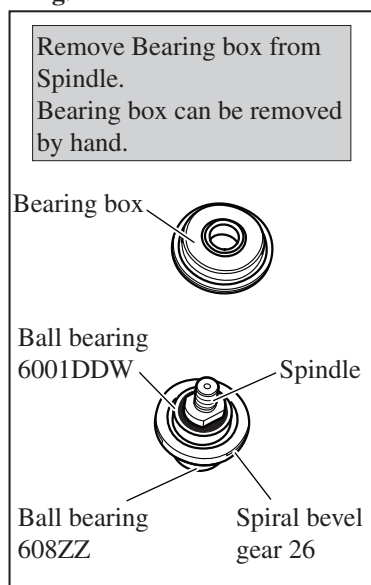
**Fig. 5**



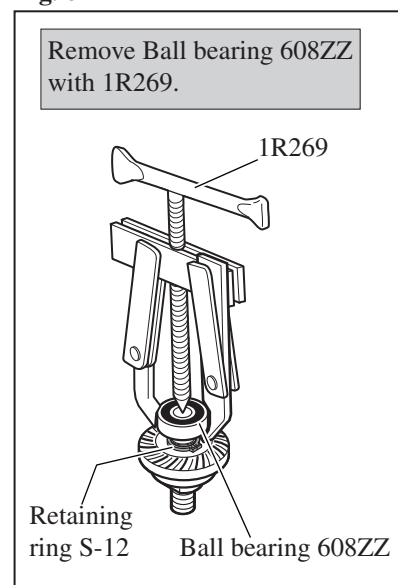
**Fig. 6**



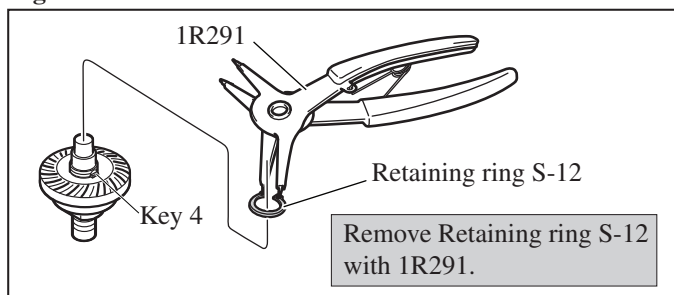
**Fig. 7**



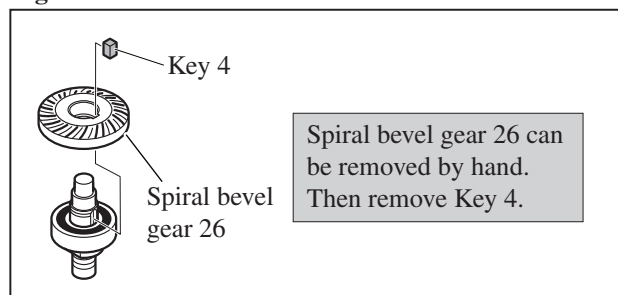
**Fig. 8**



**Fig. 9**



**Fig. 10**



#### ASSEMBLING

Do the reverse of the disassembling steps.

**Note:** Do not forget to assemble Key 4 to Spindle. **Refer to Fig. 10.**

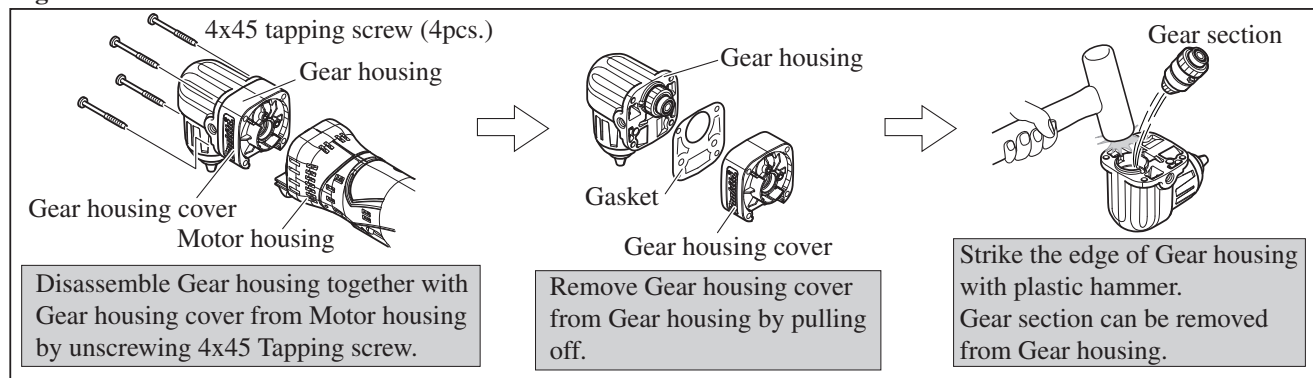
# Repair

## [3]-3. Spur Gear 29, Spiral Bevel Gear 9

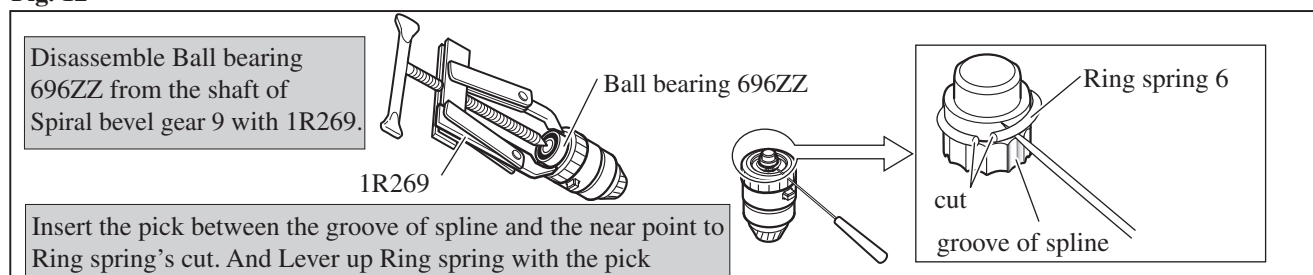
### ASSEMBLING

Refer to **Figs. 11 to 13.**

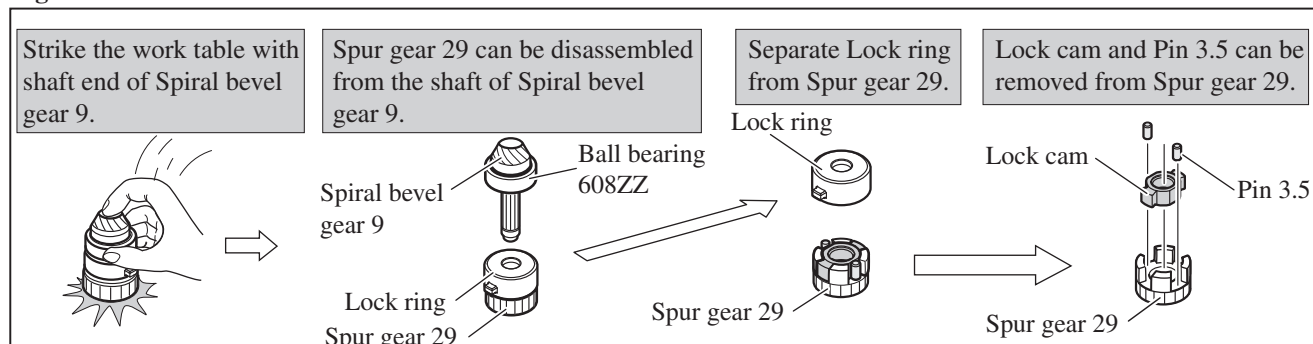
**Fig. 11**



**Fig. 12**



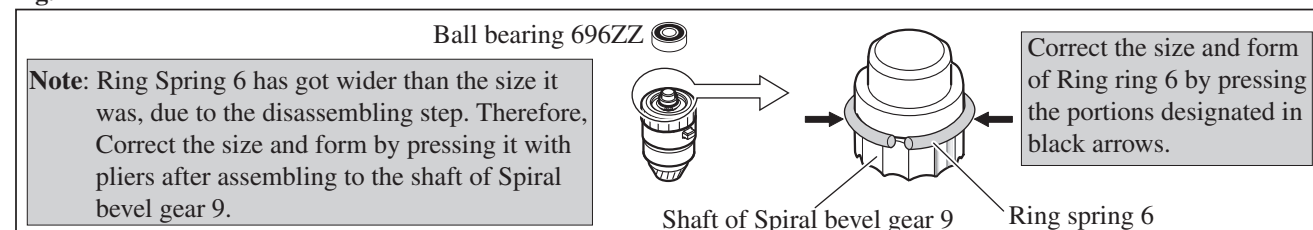
**Fig. 13**



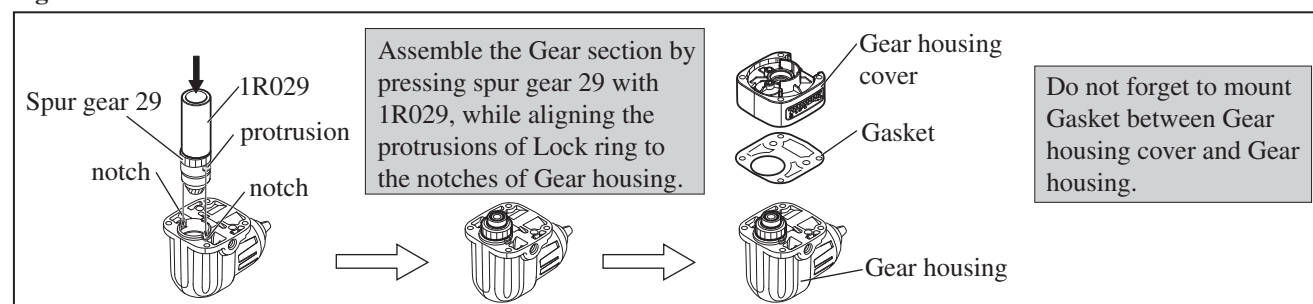
### ASSEMBLING

- (1) Take the reverse of the disassembling steps. Refer to **Figs. 13 and 12**, Pay attention to **Fig. 14**.
- (2) Mount the Gear section to Gear housing as illustrated in **Fig. 15**.
- (3) Assemble Gear housing and Gear housing cover to Motor housing by screwing 4x45 Tapping screws. (**Fig. 11**)

**Fig. 14**



**Fig. 15**



► **Repair**

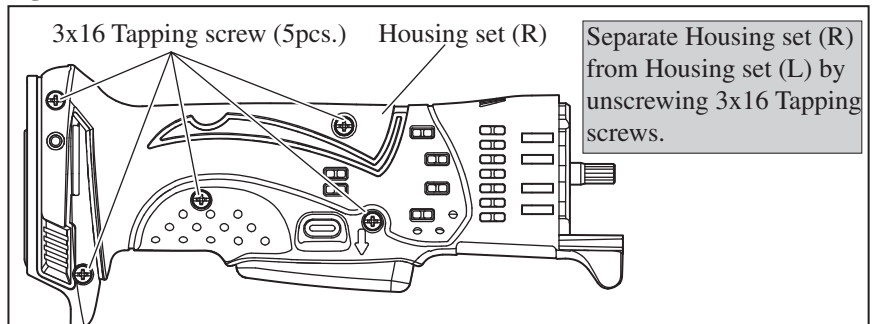
**[3] DISASSEMBLY/ASSEMBLY**

**[3]-4. Motor Section**

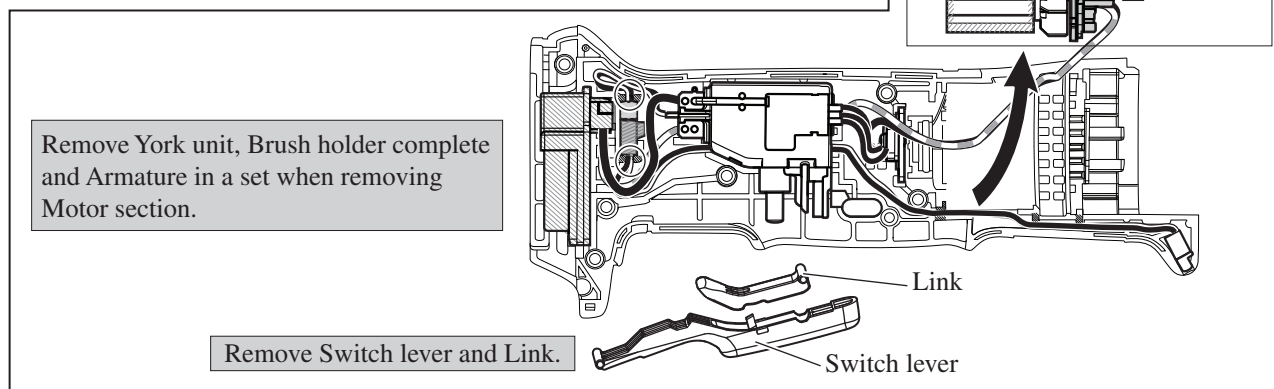
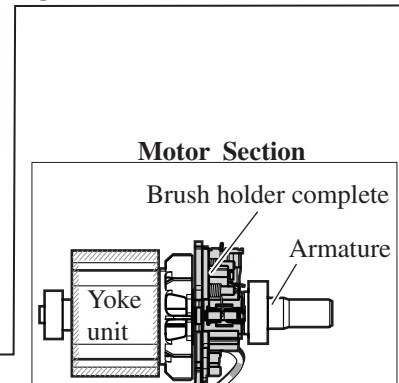
**DISASSEMBLING**

- (1) Disassemble Gear housing and Gear housing cover from Motor housing by unscrewing 4x45 Tapping screws. (Fig. 11)
- (2) Remove Motor section from Housing set (L) in the order of Figs.16 and 17.
- (3) When removing Armature from Brush holder, take the steps illustrated in Figs. 18, 19 and 20.

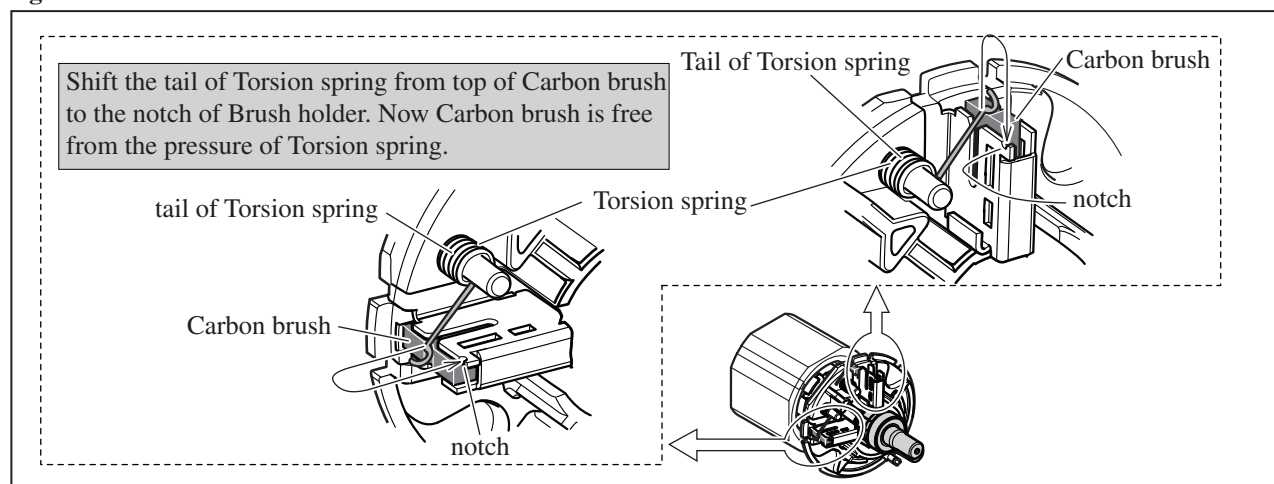
**Fig. 16**



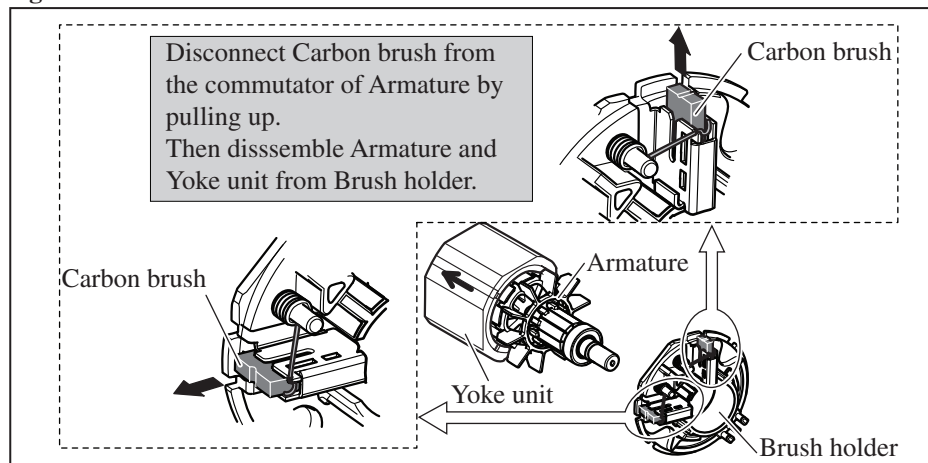
**Fig. 17**



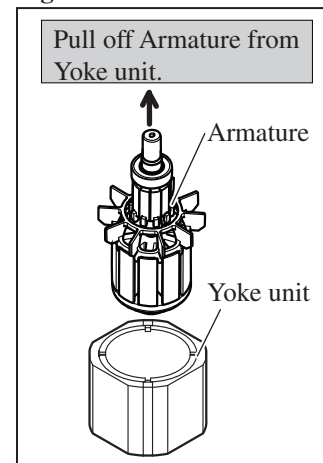
**Fig. 18**



**Fig. 19**



**Fig. 20**



## ► Repair

### [3] DISASSEMBLY/ASSEMBLY

#### [3]-4. Motor Section (cont.)

##### ASSEMBLING

(1) Assemble Armature as illustrated in Fig. 21R.

**Note:** Pay attention to the position of notch of Yoke unit.

It has to be located on the **opposite side of Commutator**.

(2) Assemble Brush holder to Armature's Commutator end.

However, still keep Carbon brush free from the pressure of Torsion spring of Brush holder in this step.

(2) Assemble the Motor section to Housing set (L) as illustrated in Figs. 22 and 23.

Fig. 21R

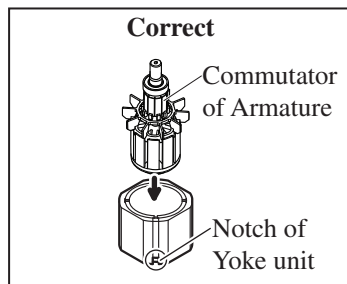


Fig. 21F

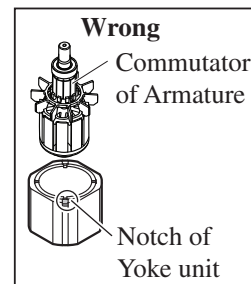


Fig. 22

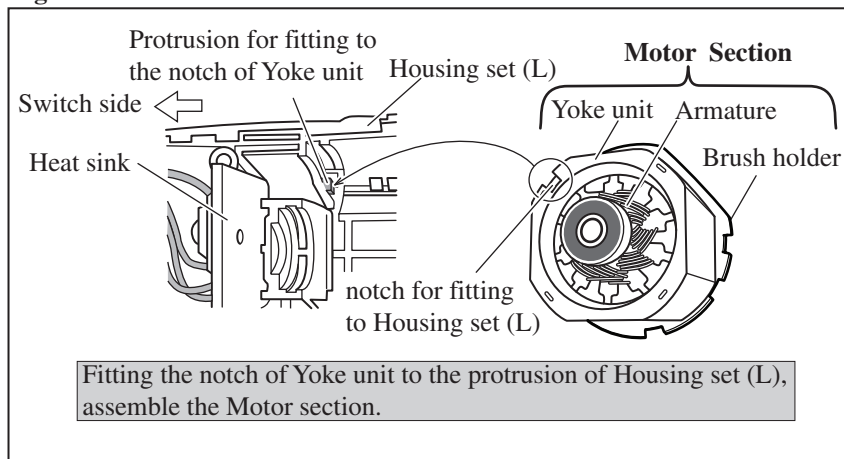
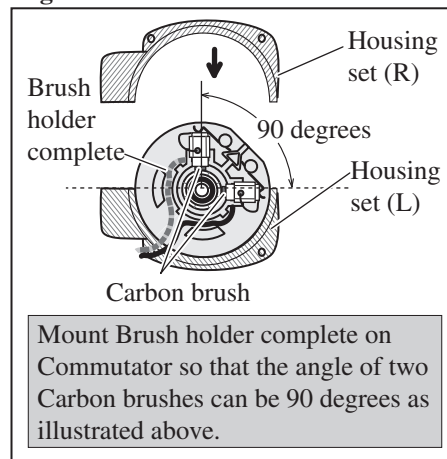


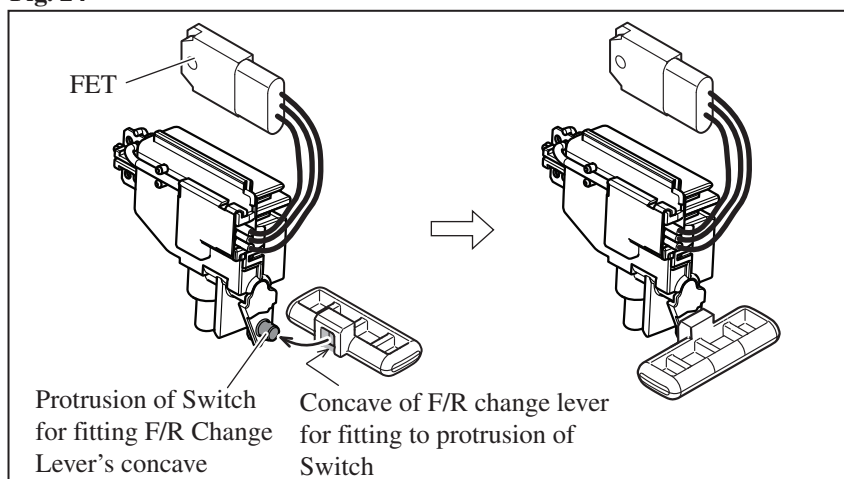
Fig. 23



#### [3]-5. Assembling F/R Change Lever

Fix F/R Change lever to Switch as illustrated in Fig. 24.

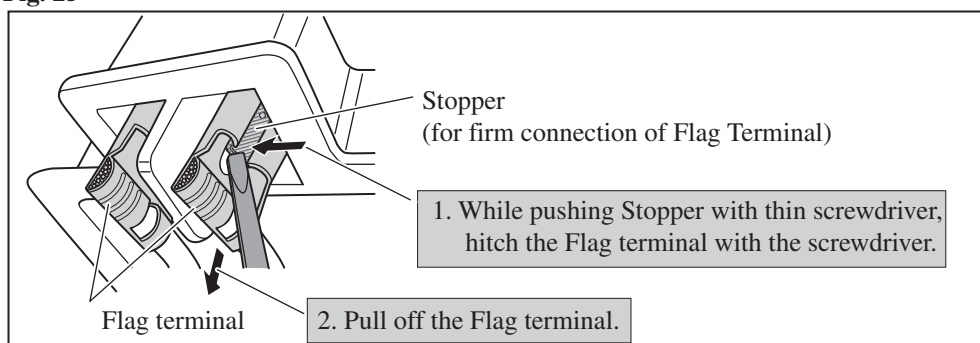
Fig. 24



#### [3]-6. Disassembling Terminal

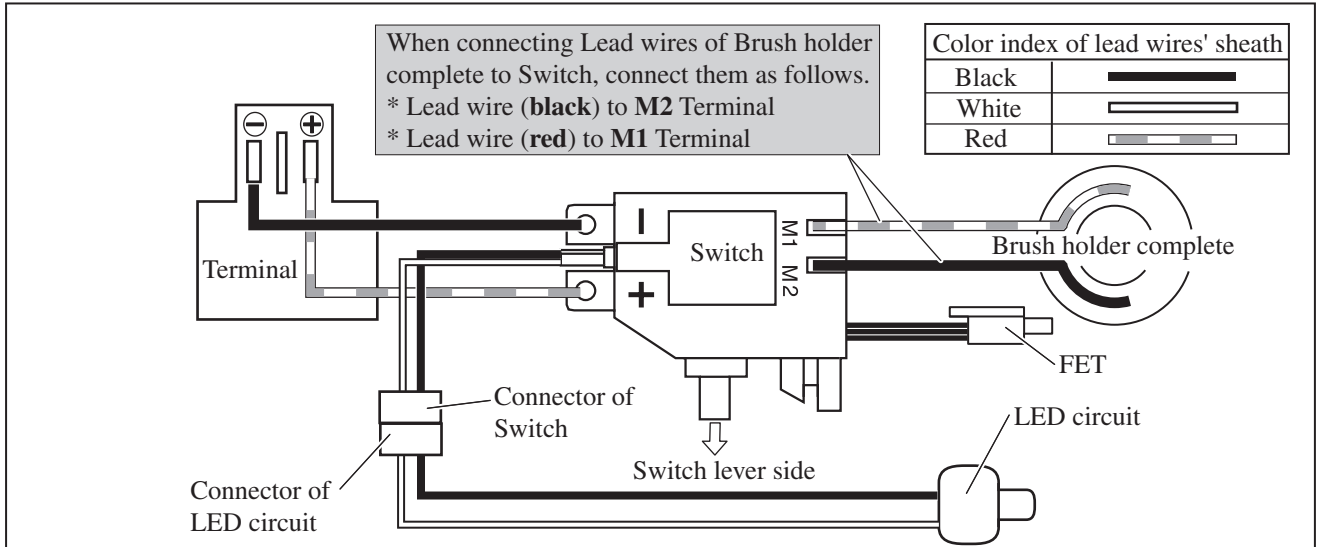
Flag terminal for this product is equipped with Stopper for firm connection. Remove Flag terminal as illustrated in Fig. 25.

Fig. 25



► **Circuit diagram**

Fig. D-1



► **Wiring diagram**

Fig. D-2

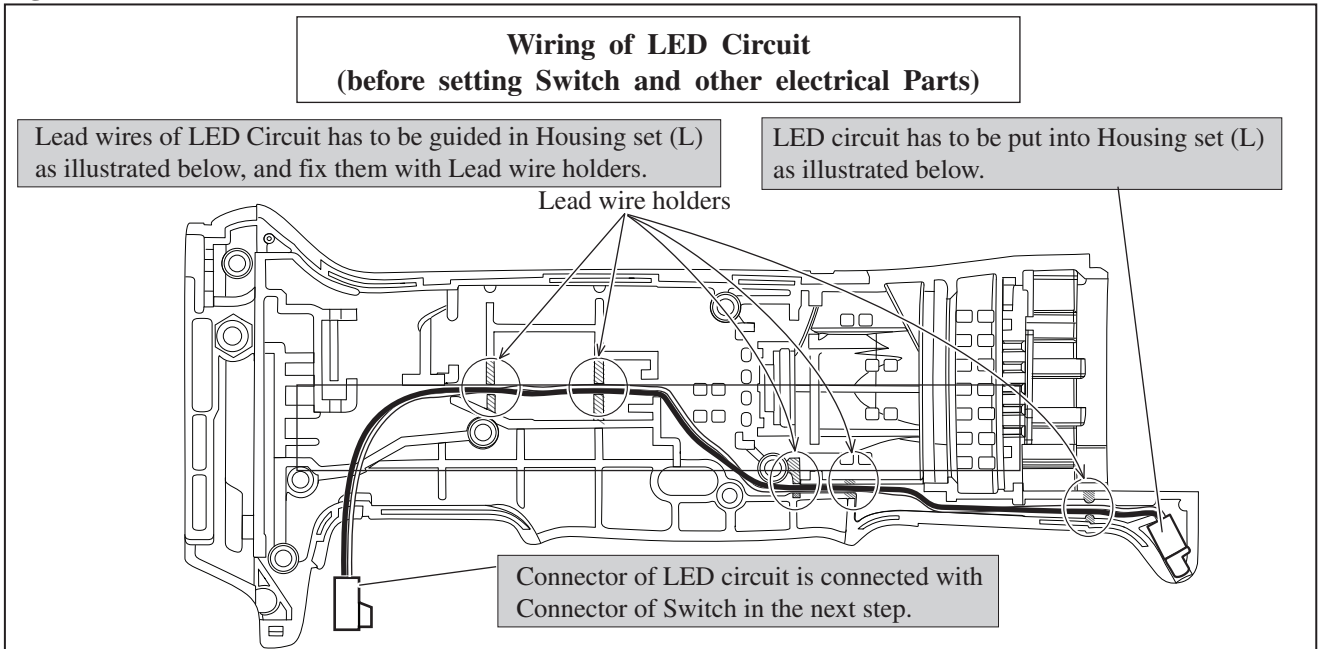


Fig. D-3

